

Mathematics 10D

1.6 – Solving Linear Systems by Elimination

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$$1) \quad \underline{-4x} + 8y = 24$$

$$+ \quad \underline{4x + 7y = 6}$$

$$\cancel{0x} + 15y = 30$$

$$y = \textcircled{2}$$

$$-4x + 8(2) = 24$$

$$-4x = 8$$

$$x = -2$$

Pseudo Standard Form

$$Ax + By = C$$

Add, subtract, multiply by
a number.

$\therefore$ POI is $(-2, 2)$

$$2) -6x + y = 21$$

$$- (5x + y = -23)$$

$$-11x = 44$$

$$x = -4$$

$$-6(-4) + y = 21$$

$$y = -3$$

$\therefore$ P.O.I is $(-4, -3)$

$$3) -6x - 7y = -7$$

$$2(3x + 6y = 6)$$

$$6x + 12y = 12$$

$$+ \quad -6x - 7y = -7$$

$$5y = 5$$

$$y = 1$$

$$-6x - 7(1) = -7$$

$$-6x = 0$$

$$x = 0$$

$$\therefore \text{PoI is } (0, 1)$$

$$4) \begin{cases} 10x - 7y = 2 \\ -9x + 9y = -18 \end{cases}$$

$$90x - 63y = 18$$

$$+ -90x + 90y = -180$$

$$27y = -162$$

$$y = -6$$

$$10x - 7(-6) = 2$$

$$10x = -40$$

$$x = -4$$

$\therefore$ P.O.I is

$$(-4, -6)$$

$$5) \begin{cases} 3x - 5y = 6 & 2 \\ -2x - 4y = \underline{-26} & 3 \end{cases}$$

$$\begin{array}{r} 6x - 10y = 12 \\ + \quad -6x - 12y = -78 \\ \hline -22y = -66 \\ y = 3 \end{array}$$

$$3x - 5(3) = 6$$

$$3x = 21$$

$$x = 7$$

$\therefore P.O.I$ is $(7, 3)$